



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,400	10/05/2000	Taku Ichiryu	198045US3	1882

22850 7590 04/02/2002

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT PAPER NUMBER

3745

DATE MAILED: 04/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,400

Applicant(s)

ICHIRYU, TAKU

Examiner

Christopher Verdier

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

Figures 3A, 7, 8, and 9 should be designated by a legend such as --Prior Art -- and not "Related Art" because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the external screw thread on a shaft of the bolt with a nut engaging the external screw thread for abutting the end face of the sleeve as recited in claim 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because it is replete with clerical and grammatical errors too numerous to mention in all instances. The following are several examples of defects. The specification should be carefully proofread for additional errors. Appropriate correction is required.

On page 1, line 28, "consists" should be changed to -- consisting --.

Art Unit: 3745

On page 3, line 9, "flange" should be changed to -- flanges --.

On page 3, line 16, "contact" should be changed to -- contacts --.

On page 4, line 34, "is remained" should be changed to -- remains --.

On page 9, line 25, "related" should be changed to -- prior --.

Claim Objections

Claims 1-4 are objected to because of the following informalities: Appropriate correction is required.

In claim 1, line 4, "segments" should be changed to -- segment --.

In claim 1, line 26, "segments" should be changed to -- segment --.

In claim 2, line 5, "halves" should be changed to -- half --.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 3 and 4, line 4, "the fastening element" is inaccurate and should be changed to -- the fastening means --. In claim 4, line 3, "said external screw" is unclear as to which of the two external screw threads of the bolt is referred to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Swiss Patent 171,458 (figure 1). Note the split casing assembled by first 3 and second 4 casing segments having joined joint faces, with the first 3 and second 4 casing segments being provided with respective bolt holes (unnumbered) that are aligned with each other, such that when the first and second casing segments are assembled together, they form a continuous bolt hole, with the bolt hole in the first casing segment being provided with an internal screw thread (unnumbered), with a sleeve 9 having an external screw thread that is fitted into the bolt hole of the first casing segment by engaging the external screw thread of the sleeve with the internal screw thread of the bolt hole of the first casing segment, with a fastening bolt 5 having fastening means 6 and passing through the bolt hole of the first casing segment and the sleeve, with the fastening means abutting an end of the sleeve opposite to the joint face, with a tensile force exerted on the fastening bolt at the portion between the fastening means and the first and second segments. The Swiss Patent meets the functional limitations set forth in the lines 26- 34 of claim 1, due to the fact that the structural elements thereof are the same as those set forth in the claims. Note however, that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. MPEP 2114.

Art Unit: 3745

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh in view of Swiss Patent 171,457. Walsh discloses a fastening arrangements for a horizontally split casing for a hydraulic machine substantially as claimed including first and second casing halves 10 joined together by joining joint faces 16, 18, with the first and second casing halves being provided with bolt holes 20 that are aligned with each other when the first and second casing halves are assembled, to form a continuous bolt hole crossing the joint. However, Walsh does not disclose that the bolt holes in the first and second casing halves are provided with internal screw threads with a sleeve having an external screw thread that is fitted into the bolt hole of the first casing half and engages the internal screw thread of the bolt hole of the first casing half, with a fastening bolt having an external screw thread at one end that engages the internal screw thread of the bolt hole in the second casing half and fastening means at the portion apart from the external screw thread, with the fastening means abutting an end of the sleeve opposite to the joint face when the fastening bolt is screwed into the bolt hole of the second casing half, with tensile force being generated in the fastening bolt, with an external screw thread being provided on a shaft of the fastening bolt and a nut engaging the external screw thread acting as the fastening element for abutting the end face of the sleeve.

Art Unit: 3745

Swiss Patent 171,458 (figure 1) shows a fastening arrangement for a horizontally split casing including first 3 and second 4 casing halves joined together by joining joint faces, with the first 3 and second 4 casing halves being provided with unnumbered bolt holes that are aligned with each other when the first and second casing halves are assembled, to form a continuous bolt hole crossing the joint. The bolt holes in the first and second casing halves are provided with internal screw threads with a sleeve 9 having an external screw thread that is fitted into the bolt hole of the first casing half and engages the internal screw thread of the bolt hole of the first casing half, with a fastening bolt 5 having an external screw thread at one end that engages the internal screw thread of the bolt hole in the second casing half and fastening means 6 at the portion apart from the external screw thread, with the fastening means abutting an end of the sleeve opposite to the joint face when the fastening bolt is screwed into the bolt hole of the second casing half, with tensile force being generated in the fastening bolt, with an external screw thread 8 being provided on a shaft of the fastening bolt and a nut engaging the external screw thread acting as the fastening element for abutting the end face of the sleeve, for the purpose of reducing leaking by preventing the expansion differences between the bolts, nuts, and casings (which are high temperature pipes) from permanently changing the form of the bolts, nuts, or casings.

The Swiss Patent is from the analogous art of high temperature pipe joints, and one of ordinary skill in the art would have looked to the art of high temperature pipe joints in order to solve the problem of differential thermal expansion in high temperature hydraulic casings. It would have been obvious at the time the invention was made to a person having ordinary skill in

Art Unit: 3745

the art to form the casings of Walsh with the fastening and sleeve arrangement of the Swiss Patent, for the purpose of reducing leaking by preventing the expansion differences between the bolts, nuts, and casings from permanently changing the form of the bolts, nuts, or casings.

With regard to claim 3, which recites an enlarged diameter portion integrally formed on a shaft portion of the fastening bolt acting as the fastening means for abutting the end face of the sleeve, Official Notice is taken that bolts having hex heads at one end and a threaded shank at the other end are old and well-known in the art for the purpose of joining members together. Therefore, it would have been obvious to a person having ordinary skill in the art to replace the bolt 5 and nut 6 arrangement taught by the Swiss Patent 171,458 with a bolt having a hex head, such that the hex head replaces the nut 6, for the purpose of joining the casings together.

Claims 2-4 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figure 7 in view of Swiss Patent 171,457. Applicant's Prior Art Figure 7 discloses a fastening arrangements for a horizontally split casing for a hydraulic machine substantially as claimed including first 110a and second 120a casing halves joined together by joining joint faces, with the first and second casing halves being provided with bolt holes 110c, 120c that are aligned with each other when the first and second casing halves are assembled, to form a continuous bolt hole crossing the joint. The bolt hole 120C in the second casing half is internally threaded. However, Applicant's Prior Art Figure 7 does not disclose that the bolt hole in the first casing half is provided with an internal screw thread with a sleeve having an external screw thread that is fitted into the bolt hole of the first casing half and engages the internal screw

Art Unit: 3745

thread of the bolt hole of the first casing half, with a fastening bolt having fastening means at the portion apart from the external screw thread, with the fastening means abutting an end of the sleeve opposite to the joint face when the fastening bolt is screwed into the bolt hole of the second casing half, with tensile force being generated in the fastening bolt, with an external screw thread being provided on a shaft of the fastening bolt and a nut engaging the external screw thread acting as the fastening element for abutting the end face of the sleeve.

Swiss Patent 171,458 (figure 1) shows a fastening arrangement for a horizontally split casing including first 3 and second 4 casing halves joined together by joining joint faces, with the first 3 and second 4 casing halves being provided with unnumbered bolt holes that are aligned with each other when the first and second casing halves are assembled, to form a continuous bolt hole crossing the joint. The bolt holes in the first and second casing halves are provided with internal screw threads with a sleeve 9 having an external screw thread that is fitted into the bolt hole of the first casing half and engages the internal screw thread of the bolt hole of the first casing half, with a fastening bolt 5 having an external screw thread at one end that engages the internal screw thread of the bolt hole in the second casing half and fastening means 6 at the portion apart from the external screw thread, with the fastening means abutting an end of the sleeve opposite to the joint face when the fastening bolt is screwed into the bolt hole of the second casing half, with tensile force being generated in the fastening bolt, with an external screw thread 8 being provided on a shaft of the fastening bolt and a nut engaging the external screw thread acting as the fastening element for abutting the end face of the sleeve, for the purpose of reducing leaking by preventing the expansion differences between the bolts, nuts, and

Art Unit: 3745

casings (which are high temperature pipes) from permanently changing the form of the bolts, nuts, or casings.

The Swiss Patent is from the analogous art of high temperature pipe joints, and one of ordinary skill in the art would have looked to the art of high temperature pipe joints in order to solve the problem of differential thermal expansion in high temperature hydraulic casings. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the casings of Applicant's Prior Art Figure 7 with the fastening and sleeve arrangement of the Swiss Patent, for the purpose of reducing leaking by preventing the expansion differences between the bolts, nuts, and casings from permanently changing the form of the bolts, nuts, or casings.

With regard to claim 3, which recites an enlarged diameter portion integrally formed on a shaft portion of the fastening bolt acting as the fastening means for abutting the end face of the sleeve, Official Notice is taken that bolts having hex heads at one end and a threaded shank at the other end are old and well-known in the art for the purpose of joining members together. Therefore, it would have been obvious to a person having ordinary skill in the art to replace the bolt 5 and nut 6 arrangement taught by the Swiss Patent 171,458 with a bolt having a hex head, such that the hex head replaces the nut 6, for the purpose of joining the casings together.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of four patents.

Kohler is cited to show a compensator bolt with a threaded sleeve that bears against a head of the bolt.

United Kingdom Patent 718,625 is cited to show a pipe joint with a ferrule 16 that bears against a nut 20.

Freeman is cited to show a lifting eyebolt assembly having a threaded sleeve that bears against a head of a bolt.


German Patent 2,842,986 is cited to show a bolt joint having a bush 2 that bears against a bolt washer 22.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

C.V.
March 23, 2002


Christopher Verdier
Primary Examiner
Art Unit 3745